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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/516,955	12/06/2004	Bernd Gromoll	1454.1586	8626
21171	7590	06/19/2006	EXAMINER	
STAAS & HALSEY LLP SUITE 700 1201 NEW YORK AVENUE, N.W. WASHINGTON, DC 20005			SCHEUERMANN, DAVID W	
			ART UNIT	PAPER NUMBER
			2834	

DATE MAILED: 06/19/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/516,955	Applicant(s) GROMOLL ET AL.	
	Examiner David W. Scheuermann	Art Unit 2834	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 17 April 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 11-21 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 11-21 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ | 6) <input type="checkbox"/> Other: |

DETAILED ACTION

Response to Arguments

Applicant's arguments filed 4/17/2006 have been fully considered but they are not persuasive. Applicant argues that a heat exchanger and cooler is different than a refrigeration unit. Examiner disagrees because applicant has not set for any defining language in the application to differentiate a "refrigeration unit" for either a cooler or "heat exchanger." According to § 2111 of the MPEP, claims must be given their broadest reasonable interpretation. A portion of this section is cited below for the practitioner's convenience:

During patent examination, the pending claims must be "given *>their< broadest reasonable interpretation consistent with the specification." >*In re Hyatt*, 211 F.3d 1367, 1372, 54 USPQ2d 1664, 1667 (Fed. Cir. 2000).< Applicant always has the opportunity to amend the claims during prosecution, and broad interpretation by the examiner reduces the possibility that the claim, once issued, will be interpreted more broadly than is justified. *In re Prater*, 415 F.2d 1393, 1404-05, 162 USPQ 541, 550-51 (CCPA 1969).

"Refrigeration unit" is broad enough to read on either a cooler or "heat exchanger." Furthermore. The radiator of Gauning is a "refrigeration unit" because it cools the temperature of the cooling fluid.

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Applicant argues that the references do not show “discrete coolant areas associated with the parts of said stator to be cooled. The examiner disagrees with this statement because Philofsky shows plural discrete stator windings wherein each slot has a separate or discrete area, i.e., an area in which the coolant circulates. The statement that the examiner acknowledges that Philofsky shows no “coolant is circulated by a thermosiphon effect,” is not entirely true. Just because a reference does not expressly disclose a limitation does mean it is not or could not be present in the reference. In the present instance any time there is a difference in temperature between the coolant and cooled stator, the thermosiphon effect would cause the coolant to circulation in a manner that allows the heated fluid to rise. Thus, the examiner disagrees that Philofsky will not run when pump 55 is replaced with a thermosiphon pump of Glauning, US 6087744. The device may not run well but it would still operate. As to new claim 21, erroneously labeled “(Previously Presented)”, note that the prior teaches using a two-phase coolant.

Drawings

The examiner accepts the drawings filed with the PCT application.

Claim Rejections - 35 USC § 103

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The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 11-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Philofsky, US 3271600 in view of Glauning, US 6087744. Philofsky, US 3271600 discloses:

An electrical machine comprising

A rotor rotatably mounted; (inherent)

A stator associated with said rotor in a stationary position¹⁰, and

A cooling device, cooling at least parts of said stator, including (inherent)

A refrigeration unit having at least one cold surface ⁵⁶; and

A closed line system (tubes ⁵² and ducts ¹⁸), thermally coupling said refrigeration unit to the parts of said

Stator to be cooled, having discrete coolant areas associated with the parts of said stator to be

Cooled, and [in which a coolant is circulated by a thermosiphon effect], the coolant being heated

Or at least partially vaporized in the discrete coolant areas.

Philofsky, US 3271600 does not expressly disclose the bracketed material. Glauning, US 6087744 teaches using a thermosiphon to circulate cooling fluid for a stator to

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obviate the need for a separate pump, see column 3, lines 40-44. At the time the invention was made, it would have been obvious to a person of ordinary skill in the art to replace circulation pump 55 of Philofsky, US 3271600 with a thermosiphon. One of ordinary skill in the art would have been motivated to do this so that no separate pump is needed.

Re claim 12, note cooler 56 of Philofsky, US 3271600.

Re claims 13-19 note that the half coils 16 for cooling channels, which traverse the axial length of the core and are coupled to every lamination of core 10.

Re claim 20, note radial vent ducts 14.

Claim 21 is rejected under 35 U.S.C. 103(a) as being unpatentable over the combination of Philofsky, US 3271600 and Glauning, US 6087744 in view of Ogura et al., US 3906261. The combination of Philofsky, US 3271600 and Glauning, US 6087744 discloses the invention substantially as claimed as set forth in the rejection of claim 1, supra. The combination of Philofsky, US 3271600 and Glauning, US 6087744 does not expressly disclose, "...in which a coolant is circulated by a thermosiphon effect with boiling and vaporization...." Ogura et al., US 3906261 disclose use of a two-phase coolant, for the inherent purpose of using the latent heat of vaporization to cool the stator core. At the time the invention was made, it would have been obvious to a person of ordinary skill in the art to use a two-phase coolant in the device of the combination of Philofsky, US 3271600 and Glauning, US 6087744. One of ordinary skill in the art would have been motivated to do this the take advantage of the large heat

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capacity of the latent heat of vaporization of the cooling fluid to more effectively cool the stator.

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to David W. Scheuermann whose telephone number is 571-272-2035. The examiner can normally be reached on Monday through Friday from 8:00 am to 4:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Darren Schuberg can be reached at (571) 272-2044. The fax phone numbers for the organization where this application or proceeding is assigned is (571) 273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for

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published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



dws
June 6, 2006



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